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Corrigendum to “On a continuum-mechanical theory for turbulence”

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The paper referenced above contains several errors. Said errors should be corrected as indicated below.

- (1) The representations $(14)_1$ for the traction \mathbf{t}_S and $(14)_2$ for the hypertraction \mathbf{m}_S exerted on a surface S with unit normal \mathbf{n} should be replaced by

$$\mathbf{t}_S = \mathbf{T}\mathbf{n} - \operatorname{div}_S(\mathbf{G}\mathbf{n} \times) + \mathbf{n} \times (\operatorname{div} \mathbf{G} + 2H\mathbf{G}\mathbf{n}), \quad (\text{C1})$$

and

$$\mathbf{m}_S = (\mathbf{G}\mathbf{n}) \times \mathbf{n}. \quad (\text{C2})$$

- (2) The free-surface condition $(30)_1$ should be replaced by

$$\mathbf{T}\mathbf{n} - \operatorname{div}_S(\mathbf{G}\mathbf{n} \times) + \mathbf{n} \times \operatorname{div} \mathbf{G} = 2\sigma H\mathbf{n}, \quad (\text{C3})$$

while the supplemental condition (32) on a fixed surface without slip should be replaced by

$$(\mathbf{G}\mathbf{n}) \times \mathbf{n} = \mathbf{m}_{\partial B}^{\text{env}}. \quad (\text{C4})$$

- (3) Consistent with (C4), the wall-eddy condition (34) should be replaced by

$$(\mathbf{G}\mathbf{n} - \mu\ell\boldsymbol{\omega}) \times \mathbf{n} = \mathbf{0}. \quad (\text{C5})$$